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EXAMINER

NATNAEL, PAULOS M

ART UNIT	PAPER NUMBER
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2614

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3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,958

Applicant(s)

HARRIS ET AL.

Examiner

Paulos M. Natnael

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3,5-10, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bennett et al.**, U.S. Pat. No. **6,278,733**.

a) encoding a video source signal by inserting data in unused video bandwidth of the video source signal, is met by the encoding apparatus 20, Fig.1A, which comprises the VBI encoder 24 and multiplexer 26 which in turn "combines the encoded VBI lines 27A with data from other sources 27C, such as MPEG2 digital video and audio." (col. 7, lines 6-9)

b) transmitting the encoded video source signal, is met by the disclosure that "the transport stream is delivered to the decoding systems 30 by any well-known transmission means, including coaxial cable, optical fiber cable, satellite, and land-based microwave." (col. 7, lines 9-13)

c) decoding the encoded video source signal, is met by decoding apparatus 30, Fig.1B;

Except for;

d) visually displaying the data or audibly delivering the data to an end user

Regarding d), Bennett discloses system and method for digitally encoding and compressing analog signals carried in the vertical blanking interval of a television signal. (see Title) Bennett does not specifically disclose a display device or a device such as a speaker that would audibly deliver the data to an end user. However, it would have been obvious to the skilled in the art at the time the invention was made that a monitor or a display device would have been used to deliver the analog signals carried in the VBI to the television set, and therefore, would have been obvious to modify the system of Bennett et al. by providing a display device and/or a speaker system so that the viewer may be able to view or hear the desired data information.

Considering claim 2, the process of claim 1, wherein the encoding step includes the step of digitizing an analog data signal, is met by A/D converter 102 in the VBI encoder 24, FIG.2;

Considering claim 3, the process of claim 2, wherein the analog data signal comprises an audio signal, is met by the disclosure "other components, such as an audio encoder, may also be present in the encoding apparatus 20", (col. 6, lines 66-68 and col. 7, lines

24-28) which indicates/suggests that the analog data signal would also possibly be an audio signal.

Considering claim 5, the process of claim 2, including the step of compressing the digitized data, is met by the disclosure on col. 2, lines 38-40 that "the VBI encoder [24] encodes and compresses the VBI information to provide a compressed VBI information stream."

Considering claim 6, the process of claim 5, including the step of transcoding the compressed digitized data, is met by Encoder/processor 106, Fig.2, that comprises the decimator 110 which, given a reasonably broad interpretation, format-converts the signal by at least a decimation process.

Considering claim 7, the process of claim 6, including the step of inserting the transcoded and compressed digitized data into predetermined unused video lines of the video source signal, is met by digital multiplexer, Fig.1A, which multiplexes the VBI information with the compressed digital video 27C, Fig.1A;

Considering claim 8, the process of claim 1, wherein the decoding step includes the step of separating the inserted data from the video source signal, is met by digital demultiplexer 31, which separates the compressed digital video 38 from the VBI messages 36, FIG.1B;

Considering claim **9**, the process of claim 8, wherein the decoding step includes the step of decompressing the inserted data, is met by the disclosure on col. 7, lines 16-19 that "the video decoder 32 converts the digital video from compressed digital format such as MPEG2 to a **decompressed format** such as Y,Cr,Cb digital component format."

Considering claim **10**, the process of claim 8, wherein the decoding step includes the step of converting the data from a digital format into an analog signal;

Regarding claim 10, the reference of Bennett et al discloses the decoding apparatus 30 as comprising demultiplexer 31, VBI decoder 33 and video decoder 32 and combiner 34. Bennett further discloses VBI decoder 33 as comprising decoder processor 152. Bennett does not specifically disclose converting the data from digital to analog format. However, it would have been obvious to the skilled in the art at the time the invention was made to provide the notoriously well-known digital-to-analog converter in order to make the signals compatible with the output or the display device so that the viewer would be able to view the signal or the data on the screen.

Considering claim **13**, a process for associating and delivering data with video media, comprising the steps of:

a) digitizing an analog data signal, is met by A/D converter 102, Fig.2;

b) compressing the digitized data, is met by the disclosure on col. 2 lines 38-40 that "the VBI encoder encodes and compresses the VBI information to provide a compressed BVI information stream."

c) transcoding the compressed digitized data into a format compatible with a video source signal, is met by Encoder/processor 106, Fig.2; (see also rejection of claim 6 above)

d) encoding the video source signal with the data by inserting the data into unused video lines of the video source signal, is met by the digital multiplexer 26 in the encoding apparatus 20 of fig.1A.

e) transmitting the encoded video source signal, is met by the disclosure that "the transport stream is delivered to the decoding systems 30 by any well-known transmission means, including coaxial cable, optical fiber cable, satellite, and land-based microwave." (col. 7, lines 9-13)

f) decoding the encoded video source signal to separate the inserted data from the video source signal, is met by the decoding apparatus 30, fig.1b, which comprises the digital demultiplexer 31, that separates the compressed digital video 38, from the VBI messages 36.

g) transcoding the inserted data into its original format, is met by the VBI Decoder 33, fig.1B, which outputs a reconstructed VBI 37, fig.1B. [emphasis added]

h) decompressing the inserted data, is met by VBI decoder which receives compressed VBI data (see col. 2, lines 38-40) and outputs reconstructed VBI 37, fig.1B which would be in compatible format and combined with the decompressed video 39 (fig.1b) and output as output video 35. (see also col. 7, lines 16-19)

Except for;

- i) converting the inserted data from a digital format to an analog signal; and,
- j) visually displaying or audibly delivering the analog data signal to an end user.

Regarding i), the reference of Bennett et al discloses the decoding apparatus 30 as comprising demultiplexer 31, VBI decoder 33 which includes A/D converter 102 (fig.2) and video decoder 32 and combiner 34. Bennett does not specifically disclose converting the data from digital to analog format. However, it would have been obvious to the skilled in the art at the time the invention was made to provide a digital-to-analog converter in order to prepare the data for display on, for example, an analog display device so that the viewer would be able to view the video or the data signal on the screen.

Regarding j), see rejection of claim 1(d).

Considering claim **14**, the process of claim 13, wherein the analog data signal comprises an audio signal.

Regarding claim 14, see rejection of claim 3.

3. Claims **4,11,12,15-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bennet** et al., U.S. Pat. No. **6,278,733** in view of **Yuen** et al., U.S. Pat. No. **6,452,640**.

Considering claim **4**, the process of claim 3, wherein the audio signal comprises an audio narrative description of visual media associated with the video source signal;

Regarding claim 4, Bennett does not specifically disclose audio narrative description of a visual media associated with the video source signal. However, Bennett however discloses that audio signal may be included and that audio encoder may be added within the encoder 20. (see col. 6, lines 65-67) Yuen discloses a sound bite augmentation system wherein audio description of a television program is reproduced simultaneously with the display of the program at a television receiver. (see abstract) Yuen et al also disclose that such a sound bite data may be embedded in the VBI of the tv signal. (col. 2, lines1-4) Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Bennett et al by providing the sound bite augmentation system of Yuen (claimed as audio narrative description) in order to enable the audio included in the VBI to be selected as a

narrative or audio description of the video program with an icon, so that the viewer would have the choice of conveniently selecting between a standard audio or the audio description of the video program.

Considering claim **11**, the process of claim 10, wherein the analog signal comprises an audio signal that is delivered to audio speakers;

Bennett discloses that "other components, such as an audio encoder, may also be present in the encoding apparatus 20", (col. 6, lines 66-68; and see also col. 7, lines 24-28) Bennett does not specifically disclose audio speakers. The reference of Yuen et al. teaches that a "sound detector 20 is coupled by a switch 22 to an audio amplifier 24. *A speaker 26 reproduces the audio signal from amplifier 24. Digital data is embedded in the TV signal, e.g., in the VBI, as a sound bite. The sound bite is preferably related to the television program.* [emphasis added] A VBI detector 28 or other means to extract the sound bite data recovers the sound bite and a digital-to-analog converter (DAC) 30 converts the sound bite to an analog signal suitable for reproduction by speaker 26." (col. 2, lines 30-37) Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Bennett by providing the speakers of Yuen in order to reproduce the audio signal, because without speakers the audio signal would not be heard.

Considering claim **12**, the process of claim 10, wherein the analog signal comprises an audio narrative description of visual media associated with the video source signal.

Regarding claim 12, see rejection of claim 4.

Considering claim 15, the process of claim 14, wherein the audio signal comprises an audio narrative description of visual media associated with the visual source signal.

Regarding claim 15, see rejection of claim 4.

Considering claim 16, the process of claim 15, audio narrative description of the visual media is delivered to audio speakers.

Regarding audio narrative description of the visual media, see rejection of claim 4. As for audio speakers, see rejection of claim 11.

Considering claim 17, a process for associating and delivering data with video, comprising the steps of:

b) transmitting the encoded video source signal, is met by the disclosure that "the transport stream is delivered to the decoding systems 30 by any well-known transmission means, including coaxial cable, optical fiber cable, satellite, and land-based microwave." (col. 7, lines 9-13)

Except for;

a) encoding a video source signal with data comprising an audio narrative description of visual media associated with the video source signal by inserting the audio narrative description data into unused video lines of the video source signal;

- c) decoding the encoded video source signal to separate the inserted audio narrative description data from the video source signal;
- d) delivering the audio narrative description data to an audio speaker.

Regarding a) and c), the reference of Bennett et al discloses encoding and decoding apparatuses for the video source signal and VBI information. Bennett et al disclose that audio signal may be included and that audio encoder may also be added within the encoder. (col. 6, lines 65-67) Bennett et al do not specifically disclose audio narrative description of a visual media associated with the video source signal. However, audio narrative or described video or television services, as is also called in the art, is well known in the art. In that regard, Yuen et al. disclose a sound bite augmentation system wherein the audio description of a television program is reproduced simultaneously with the display of the program at a television receiver. (see abstract) Yuen et al also disclose that such a sound bite data may be embedded in the VBI of the tv signal. (col. 2, lines 1-4) Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Bennett et al by providing the sound bite augmentation system of Yuen (claimed as audio narrative description) in order to enable the audio included in the VBI to be selected as a narrative or audio description of the video program with an icon, so that the viewer would have the choice of conveniently selecting between a standard audio or the audio description of the video program.

Regarding (d) audio speakers, see rejection of claim 11.

Considering claim **18**, the process of claim 17, wherein the encoding step includes the step of digitizing an analog data signal, is met A/D converter 102 in the VBI encoder 24, FIG.2. As to the audio narrative description, see rejection of claim 17 (a) and (c).

Considering claim **19**, the process of claim 18, including the step of compressing the digitized audio narrative description data.

Regarding audio narrative description data, see rejection of claim 17 (a) and (c) above. As for decompressing the digitized audio narrative description data, Bennett discloses on col. 2 lines 38-40 that "the VBI encoder encodes and compresses the VBI information to provide a compressed BVI information stream." Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Bennett et al so that the system as modified above with Yuen would also perform compression on the audio narrative description data, in order that the transmission and storage of the data information takes less space and results in less overall cost of the system.

Considering claim **20**, the claimed including the step of transcoding the compressed and digitized audio, is met by Decoder 104 and Encoder/processor 106, Fig.2, which comprises the quantizer 112 and the decimator 110 that, given a reasonably broad interpretation, format-converts by at least the decimation process (fig.2). As to the claimed "narrative description data" into a format compatible with the video source signal, see rejection of claim 17 (a) and (c).

Considering claim **21**, the process of claim 17, wherein the decoding step includes the step of transcoding the inserted audio narrative description data into its original format, is met by Encoder/processor 106, Fig.2, which comprises the quantizer 112 and the decimator 110 which, reasonably broadly interpreted, format-converts by at least the decimation process, fig.2. As to the inserted audio narrative description data, see rejection of claim 17 (a) and (c).

Considering claim **22**, the process of claim 21, including the step of decompressing the inserted, is met by the disclosure on col. 7, lines 16-19 that "the video decoder 32 converts the digital video from compressed digital format such as MPEG2 to a **decompressed format** such as Y, Cr, Cb digital component format." As to the audio being **narrative description data**, see rejection of claim 17 (a) and (c).

Considering claim **23**, the process of claim 22, including the step of converting the inserted audio narrative description data from a digital format to an analog signal.

Regarding claim 23, the reference of Bennett et al discloses the decoding apparatus 30 as comprising demultiplexer 31, VBI decoder 33 and video decoder 32 and combiner 34. Bennett does not specifically disclose converting the data from digital to analog format. However, it would have been obvious to the skilled in the art at the time the invention was made to provide a digital-to-analog converter in order to prepare the data for display on an analog display device, for example, so that the viewer would

be able to view the signal or the data on the screen. As to the audio being narrative description data, see rejection of claim 17 (a) and (c).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Myhrovold et al, U.S. Pat. No. 5,708,476 discloses a system and method for inserting and recovering a data signal for transmission with a video signal.

Kirkland, U.S. Pat. No. 5,900,908 discloses a system and method for providing described television services.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Paulos M. Natnael* whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *John Miller* can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2614

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PAULOS M. NATNAEL
PATENT EXAMINER

PMN

February 4, 2004